

BID FORM

MISSOURI DEPARTMENT OF TRANSPORTATION

GENERAL SERVICES

PO Box 270, Jefferson City, MO 65102(Mailing Address)

830 MoDOT Drive, Jefferson City, MO 65109 (Physical Address)

REQUEST NO.	2-120524RW		
DATE	May 4, 2012		
PAGE NO.	1	NO. OF PAGES	11

SEALD BIDS, SUBJECT TO THE ATTACHED CONDITIONS WILL BE RECEIVED AT THIS OFFICE UNTIL

1:00 PM, CDT, May 24, 2012

AND THEN PUBLICLY OPENED AND READ FOR FURNISHING THE FOLLOWING SUPPLIES OR SERVICES.

BID TO BE BASED F.O.B. MISSOURI DEPARTMENT OF TRANSPORTATION

Submit net bid as cash discount stipulations will not be considered

F.O.B. Destinations

Locations as Shown on Attachment

SIGN AND RETURN BEFORE TIME SET FOR OPENING

BUYER:	Robin Warren, Sr. General Services Specialist	BUYER TELEPHONE:	(573) 526-7929
BUYER EMAIL:	Robin.Warren@modot.mo.gov		

SUPPLIES OR SERVICESMoDOT is seeking bids from qualified bidders whom can provide **Liquid Calcium Chloride**.

Sealed bids will be accepted to supply beet juice as described in this bid. The issuance of this RFB in no way constitutes a commitment to award a contract or to pay any costs incurred in preparation of a response to this request.

*****NOTE: It is the responsibility of the Bidder to access MoDOT's website in order to obtain any and all addenda(s) issued during the course of this RFB process.**

All questions regarding this RFB shall be submitted to the RFB Coordinator/Contact.

(SEE ATTACHED FOR CONDITIONS AND INSTRUCTIONS)

In compliance with the above Request For Bid, and subject to all conditions thereof, the undersigned bidder agrees to furnish and deliver any or all the items on which prices were bid within the timeframe specified herein, after receipt of formal purchase order.

Date:	_____	Firm Name:	_____
Telephone No.:	_____	Address:	_____
Fax No.:	_____		_____
Email Address:	_____	By (Signature):	_____
	_____	Type/Print Name	_____
		Title:	_____

1. INTRODUCTION AND GENERAL INFORMATION

1.1 Introduction:

- 1.1.1 This Request for Bid seeks bids from qualified organizations to provide **Calcium Chloride (Liquid)** located throughout the State of Missouri with an effective contract period of Notice to Proceed through May 31, 2013, to the Missouri Highways and Transportation Commission (MHTC) and Missouri Department of Transportation (MoDOT). Each bid must be mailed in a sealed envelope to Robin Warren, Missouri Department of Transportation, General Services Procurement, P.O. Box 270, Jefferson City, MO 65102, or hand-delivered in a sealed envelope to the General Services Procurement Office at 830 MoDOT Drive, Jefferson City, MO 65109. All questions regarding the RFB shall be submitted to Robin Warren. Bids must be returned to the office of General Services Procurement no later than 1:00 p.m., CDT, May 24, 2012.

RFB Coordinator:

**Robin Warren, Sr. General Services Specialist
Missouri Department of Transportation
General Services - Procurement**

**Phone: 573-526-7929
E-mail: Robin.Warren@modot.mo.gov**

1.2 General Information:

1.2.1 This document constitutes an invitation for competitive, sealed bids for the procurement of Calcium Chloride (Liquid) as set forth herein.

1.2.2 Organization - This document, referred to as a Request for Bid (RFB), is divided into the following parts:

- 1) Introduction and General Information
- 2) Scope of Work
- 3) Bid Submission
- 4) Pricing Page(s)
- 5) Signature Page(s)
- 6) Terms and Conditions
- 7) Specifications – Attachment A
- 8) District Map – Attachment B
- 9) Building Locations (*Click on separate link to view.*)

2. SCOPE OF WORK

2.1 General Requirements:

- 2.1.1 The contractor shall provide Calcium Chloride (Liquid) on an as needed, if needed basis for the Missouri Highway and Transportation Commission (MHTC) and Missouri Department of Transportation (MoDOT), in accordance with the provisions and requirements stated herein.
- 2.1.2 The contractor shall provide all deliverables/services to the sole satisfaction of MoDOT.
- 2.1.3 MoDOT estimates, but does not guarantee, that the estimated quantities specified herein may be required/purchased.
- 2.1.4 MoDOT reserves the right to obtain “like or similar” products as specified herein from other manufacturers, exclusive of the contract, when use of such products is deemed in the best interest of MoDOT.
- 2.1.5 The contractor shall insure that all materials, equipment, and/or services specified herein complies with MoDOT Specification # MGS-92-07G, Attachment A, and any other provisions outlined in this document.
- 2.1.6 Unless otherwise specified herein, the contractor shall furnish all material, labor, facilities, equipment, and supplies necessary to provide the deliverables/services required herein.

2.2 Delivery Requirements:

- 2.2.1 The contractor shall deliver Calcium Chloride (Liquid) as specified herein to various locations within the MoDOT Districts specified on Attachment B – District Map elsewhere herein.
- 2.2.2 The contractor shall deliver Calcium Chloride (Liquid) within fifteen (15) calendar days after the order is placed. In the event the fifteenth (15th) calendar day is a Saturday, Sunday or Holiday, the delivery shall be accomplished on the next normal workday.
- 2.2.3 The contractor shall unload Calcium Chloride (Liquid) into MoDOT storage tanks.
- 2.2.4 The contractor shall deliver Calcium Chloride (Liquid) during normal working hours (7:30 a.m. - 4:00 p.m. Monday through Friday) unless specified otherwise by the District Engineer or his authorized representative.
- 2.2.5 The contractor shall understand and agree that:
 - a) deliveries shall not be requested or accepted on Holidays, Saturdays or Sundays unless a mutual agreement has been reached between the contractor and MoDOT.
 - b) failure to deliver as requested could be justification for cancellation of the contract award.

2.3 Liquidated Damage Requirements:

- 2.3.1 The contractor shall agree and understand that providing the Calcium Chloride (Liquid) in accordance with the requirements stated herein is considered critical to the efficient operations of MoDOT. However, since the amount of actual damages would be difficult to establish in the event the contractor fails to comply with the contractual requirements, the contractor shall agree and understand that the amount identified below as liquidated damages shall be reasonable and fair under the circumstances.

- a. In the event the contractor fails to provide the Calcium Chloride (Liquid) in accordance with the contractual requirements specified herein, the contractor shall be assessed liquidated damages in the amount of \$250.00 per day for each such delinquent day.
- b. The contractor shall further agree and understand that such liquidated damages shall either be deducted from the total amount due the contractor or paid by the contractor as a direct payment to MoDOT, at the sole discretion of MoDOT.
- c. The contractor shall agree and understand that the liquidated damages described herein shall not be construed as a penalty.
- d. The contractor shall agree and understand that all assessments of liquidated damages shall be within the discretion of each District as a separate entity, and shall be in addition to, not in lieu of, the rights of the State of Missouri to pursue other appropriate remedies. The contractor shall understand and agree that each District's decision shall be individual, final, and without recourse.
- e. The contractor shall agree and understand that if a product(s) is rejected due to not meeting specifications, all costs associated with returning the product to the contractor shall be paid by the contractor.

2.4 Invoicing and Payment Requirements:

- 2.4.1 The contractor shall submit an itemized invoice to the applicable requesting address for the completion of deliverables, as specified herein.
- 2.4.2 Each invoice should be itemized in accordance with items listed on the purchase order and/or contract. The statewide financial management system has been designed to capture certain receipt and payment information. Therefore, each invoice submitted must reference the purchase order number and must be itemized in accordance with items listed on the purchase order. Failure to comply with this requirement may delay processing of invoices for payment.
- 2.4.3 The contractor shall be paid in accordance with the firm, fixed prices stated on the pricing page(s) of this document after completion of deliverables specified herein and acceptance by MoDOT.
- 2.4.4 Other than the payment specified above, no other payments or reimbursements shall be made to the contractor for any reason whatsoever.
- 2.4.5 MoDOT is exempt from paying Missouri Sales Tax, Missouri Use Tax and Federal Excise Tax. However, the contractor may themselves be responsible for the payment of taxes on materials they purchase to fulfill the contract. A Federal Excise Tax Exemption Certificate will be furnished to the successful bidder upon request.
- 2.4.6 Unless otherwise provided for in the solicitation documents, payment for all equipment, supplies, and/or services required herein shall be made in arrears. The Missouri Highways and Transportation Commission (MHTC) shall not make any advance deposits.
- 2.4.7 The MHTC assumes no obligation for equipment, supplies, and/or services shipped or provided in excess of the quantity ordered. Any authorized quantity is subject to the MHTC's rejection and shall be returned at the contractor's expense.
- 2.4.8 The MHTC reserves the right to purchase goods and services using the state-purchasing card.

2.5 Other Contractual Requirements:

- 2.5.1 Contract Period - The contract shall commence from the date of award until May 31, 2013 with up to two (2) one-year renewal option periods. If the option for renewal is exercised by MoDOT, the contractor shall agree to all terms and conditions of the RFB and all subsequent amendments. Renewal options are at the sole discretion of MoDOT.
- 2.5.2 Renewal Periods - If the option for renewal is exercised by MoDOT, the contractor shall agree that the prices for the renewal period shall not exceed the maximum price for the applicable renewal period stated herein.
- a. If renewal prices are not provided, the prices during renewal periods shall be the same as during the original contract period.
 - b. MoDOT does not automatically exercise its option for renewal based upon the maximum price and reserves the right to offer or to request renewal of the contract at a price less than the maximum price stated.
 - c. In the event MoDOT exercises its option(s) to renew the contract, the requirements for future years shall be basically similar.
- 2.5.3 Inspection Specifications - MoDOT reserves the right to inspect the material at the point of manufacture, intermediate storage point, or at a destination which shall be at the discretion of MoDOT.
- 2.5.4 Escalation Clause - In the event the contractor requests a price increase during the contract period, the contractor must provide a written request and documentation justifying the need for a price increase, and the amount of such price increase. MoDOT will review the contractor's written request and documentation, and decide if a price increase is to be granted at that particular time. The contractor shall understand and agree that MoDOT's decision shall be final and without recourse.
- a. No price increase shall be granted during the first 3 months of the original contract period, or if applicable, first 3 months of a contract period for a renewal.

4. PRICING PAGE

4.1 Calcium Chloride (Liquid) - The bidder shall provide firm, fixed prices in the table below for the original contract period and a maximum price for each potential renewal period for providing the deliverables/services in accordance with the provisions and requirements of this RFB. All costs associated with providing the required deliverables/services shall be included in the prices stated below.

CALCIUM CHLORIDE (LIQUID)					
Item #	Location	Estimated Gallons	Original Contract Period <i>Firm, Fixed Price</i>	1st Renewal Period <i>Maximum Price</i>	2nd Renewal Period <i>Maximum Price</i>
001	Northwest District	5,000	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>
002	Northeast District	68,000	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>
003	Kansas City District	36,000	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>
004	Central District	4,000	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>
005	St. Louis District	14,000	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>
006	Southwest District	4,000	\$ _____ <i>per gallon</i>	_____ <i>per gallon</i>	\$ _____ <i>per gallon</i>
007	Southeast District	4,000	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>	\$ _____ <i>per gallon</i>

Minimum Load: _____ gallons

4.2 Bidder shall state the brand name of the Liquid Calcium Chloride being proposed: _____

Signature

Date

ANTI-COLLUSION STATEMENT

STATE OF _____)
)
COUNTY OF _____) **SS.**

_____ being first

duly sworn, deposes and says that he is _____
Title of Person Signing

of _____

Name of Bidder

that all statements made and facts set out in the bid for the above project are true and correct; and that the bidder (The person, firm, association, or corporation making said bid) has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such bid or any contract which may result from its acceptance.

Affiant further certifies that bidder is not financially interested in, or financially affiliated with, any other bidder for the above project.

By _____

By _____

By _____

Sworn to before me this _____ day of _____, 20_____.

Notary Public

My Commission Expires _____

VENDOR INFORMATION & PREFERENCE CERTIFICATION FORM

Vendor Information

All bidders must furnish ALL applicable information requested below

Vendor Name/Mailing Address: Email Address:	Vendor Contact Information (including area codes): Phone #: Cellular #: Fax #:
Printed Name of Responsible Officer or Employee:	Signature:
For Corporations - State in which incorporated:	For Others - State of domicile:

If the address listed in the Vendor Name/Mailing Address block above is not located in the State of Missouri, list the address of Missouri offices or places of business:

*If additional space is required, please attach an additional sheet and identify it as **Addresses of Missouri Offices or Places of Business.***

M/WBE INFORMATION: List all certified Minority or Women Business Enterprises (**M/WBE**) utilized in the fulfillment of this bid. Include percentages for subcontractors and identify the M/WBE certifying agency:

<u>M/WBE Name</u>	<u>Percentage of Contract</u>	<u>M/WBE Certifying Agency</u>
_____	_____	_____
_____	_____	_____

*If additional space is required, please attach an additional sheet and identify it as **M/WBE Information***

Preference Certification

All bidders must furnish ALL applicable information requested below

GOODS/PRODUCTS MANUFACTURED OR PRODUCED IN USA: If any or all of the goods or products offered in the attached bid which the bidder proposes to supply to the MHTC are **not** manufactured or produced in the "United States", or imported in accordance with a qualifying treaty, law, agreement, or regulation, list below, by item or item number, the country other than the United States where each good or product is manufactured or produced.

Item (or item number)	Location Where Item is Manufactured or Produced

*If additional space is required, please attach an additional sheet and identify it as **Location Products are Manufactured or Produced.***

MISSOURI SERVICE-DISABLED VETERAN BUSINESS: Please complete the following if applicable. Additional information may be requested if preference is applicable. See below definitions for qualification criteria:

Service-Disabled Veteran is defined as any individual who is disabled as certified by the appropriate federal agency responsible for the administration of veterans' affairs.

Service-Disabled Veteran Business is defined as a business concern:

- a. Not less than fifty-one (51) percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than fifty-one (51) percent of the stock of which is owned by one or more service-disabled veterans; and
- b. The management and daily business operations of which are controlled by one or more service-disabled veterans.

Veteran Information

Business Information

Service-Disabled Veteran's Name (Please Print)

Service-Disabled Veteran Business Name

Service-Disabled Veteran's Signature

Missouri Address of Service Disabled Veteran Business

Cooperative Procurement

The Department is interested in assisting Missouri governmental entities, etc. in purchasing equipment, various materials, and supplies that meet the MoDOT specifications.

Each bidder is asked to indicate below whether they would be willing to offer **Calcium Chloride (Liquid)** listed in the attached "Request for Bid" for sale to these local political entities at the same bid price offered to this Department.

It is understood the Department will not issue purchase orders, accept delivery nor make payment for these items ordered by any of these agencies. It is further understood the price is based on the **Calcium Chloride (Liquid)** meeting the Department specifications. Any added options, deletions, or extra freight costs would be negotiated between the local agency and the successful vendor.

Indicate below whether your company is willing to offer such cooperative purchasing for Missouri counties, cities or other political entities.

YES _____

NO _____

If the price varies throughout the state on Department bids because of different delivery destinations, please indicate the price f.o.b. your location that would be offered as described.

F.O.B. Location _____

Indicate the deadline date that orders will be accepted. _____

COMPANY NAME _____

ADDRESS _____

PHONE NUMBER _____

SIGNATURE _____

TITLE _____

DATE _____

Missouri Highways and Transportation Commission
Standard Bid/Proposal Provisions, General Terms and Conditions and Special Terms and Conditions

STANDARD SOLICITATION PROVISIONS

- a. The solicitation for the procurement of the supplies referenced therein, to which these "Standard Bid Provisions, General Terms and Conditions and Special Terms and Conditions" are attached, is being issued under, and governed by, the provisions of Title 7 – Missouri Department of Transportation, Division 10 – Missouri Highways and Transportation Commission, Chapter 11 – Procurement of Supplies, of the Code of State Regulations. The Missouri Highways and Transportation Commission (**MHTC**), acting by and through its operating arm, the Missouri Department of Transportation (**MoDOT**), draws the Bidder's attention to said 7 CSR 10-11 for all the provisions governing solicitation and receipt of bids/quotes and the award of the contract pursuant to this solicitation.
- b. All bids/quotes must be signed with the firm name and by a responsible officer or employee. Obligations assumed by such signature must be fulfilled.

GENERAL TERMS AND CONDITIONS

Definitions

Capitalized terms as well as other terms used but not defined herein shall have the meaning assigned to them in section 7 CSR 10-11.010 Definition of Terms.

Nondiscrimination

- a. The Contractor shall comply with all state and federal statutes applicable to the Contractor relating to nondiscrimination, including, but not limited to, Chapter 213, RSMo; Title VI and Title VII of Civil Rights Act of 1964 as amended (42 U.S.C. Sections 2000d and 2000e, *et seq.*); and with any provision of the "Americans with Disabilities Act" (42 U.S.C. Section 12101, *et seq.*)
- b. **Sanctions for Noncompliance:** In the event of the Contractor's noncompliance with the nondiscrimination provisions of this contract, MHTC shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
 - i. withholding of payments to the Contractor under the contract until the Contractor complies, and/or,
 - ii. cancellation, termination or suspension of the contract, in whole or in part.

Contract/Purchase Order

- a. By submitting a bid, the Bidder agrees to furnish any and all equipment, supplies and/or services specified in the solicitation documents, at the prices quoted, pursuant to all requirements and specifications contained therein.
- b. A binding contract shall consist of: (1) the solicitation documents, amendments thereto, and/or Best and Final Offer (BAFO) request(s) with any changes/additions, (2) the Contractor's bid response, and (3) the MHTC's acceptance of the bid by post-award contract or purchase order.
- c. A notice of award does not constitute an authorization for shipment of equipment or supplies or a directive to proceed with services. Before providing equipment, supplies and/or services, the Contractor must receive a properly authorized notice to proceed and/or purchase order.

Applicable Laws and Regulations

- a. The contract shall be construed according to the laws of the State of Missouri. The Contractor shall comply with all local, state, and federal laws and regulations related to the performance of the contract. The exclusive venue for any legal proceeding relating to or arising, out of the contract shall be in the Circuit Court of Cole County, Missouri.
- b. The Contractor must be registered and maintain good standing with the Secretary of State of the State of Missouri, Missouri Department of Revenue, and other regulatory agencies, as may be required by law or regulations. Prior to the issuance of a purchase order and/or notice to proceed, the Contractor may be required to submit to MHTC a copy of their current Authority Certificate from the Secretary of State of the State of Missouri and/or a copy of their Certificate of No Tax Due from the Missouri Department of Revenue.
- c. Prior to the issuance of a purchase order and/or notice to proceed, all **out-of-state** Contractors **providing services** within the state of Missouri must submit to MHTC a copy of their current Transient Employer Certificate from the Missouri Department of Revenue, in addition to a copy of their current Authority Certificate from the Secretary of State of the State of Missouri.

Executive Order:

The Contractor shall comply with all the provisions of Executive Order 07-13, issued by the Honorable Matt Blunt, Governor of Missouri, on the sixth (6th) day of March, 2007. This Executive Order, which promulgates the State of Missouri's position to not tolerate persons who contract with the state engaging in or supporting illegal activities of employing individuals who are not eligible to work in the United States, is incorporated herein by reference and made a part of this Agreement.

- 1) "By signing this Agreement, the Contractor hereby certifies that any employee of the Contractor assigned to perform services under the contract is eligible and authorized to work in the United States in compliance with federal law."
- 2) In the event the Contractor fails to comply with the provisions of the Executive Order 07-13, or in the event the Commission has reasonable cause to believe that the contractor has knowingly employed individuals who are not eligible to work in the United States in violation of federal law, the Commission reserves the right to impose such contract sanctions as it may determine to be appropriate, including but not limited to contract cancellation, termination or suspension in whole or in part or both.
- 3) The Contractor shall include the provisions of this paragraph in every subcontract. The Contractor shall take such action with respect to any subcontract as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Preferences

- a. In the evaluation of bids/quotes, preferences shall be applied in accordance with 7 CSR 10-11.020(7). Contractors should apply the same preferences in selecting subcontractors. The attached document entitled "**VENDOR INFORMATION AND PREFERENCE CERTIFICATION FORM**" must be completed and returned with the solicitation documents.
- b. Bidders are encouraged to obtain minority business enterprise (MBE) and women business enterprise (WBE) participation in this work through the use of subcontractors, suppliers, joint ventures, or other arrangements that afford meaningful participation for M/WBES. Bidders are encouraged to obtain 10% MBE and 5% WBE participation.

Missouri Highways and Transportation Commission
Standard Bid/Proposal Provisions, General Terms and Conditions and Special Terms and Conditions

Cancellation of Contract

The MHTC may cancel the Contract at any time for a material breach of contractual obligations or for convenience by providing Contractor with written notice of cancellation. Should the MHTC exercise its right to cancel the contract for such reasons, cancellation will become effective upon the date specified in the notice of cancellation sent to the Contractor.

Bankruptcy or Insolvency

Upon filing for any bankruptcy or insolvency proceeding by or against the Contractor, whether voluntarily, or upon the appointment of a receiver, trustee, or assignee, for the benefit of creditors, the Commission reserves the right and sole discretion to either cancel the Agreement or affirm the Agreement and hold the Contractor responsible for damages.

Warranty

The Contractor expressly warrants that all equipment, supplies, and/or services provided shall: (1) conform to each and every specification, drawing, sample or other description which was furnished to or adopted by the MHTC, (2) be fit and sufficient for the purpose expressed in the solicitation documents, (3) be merchantable, (4) be of good materials and workmanship, and (5) be free from defect.

Status of Independent Contractor

The Contractor represents itself to be an independent Contractor offering such services to the general public and shall not represent itself or its employees to be an employee of the MHTC. Therefore, the Contractor shall assume all legal and financial responsibility for taxes, FICA, employee fringe benefits, workers' compensation, employee insurance, minimum wage requirements, overtime, etc., and agrees to indemnify, save and hold the MHTC, its officers, agents and employees harmless from and against any and all losses (including attorney fees) and damage of any kind related to such matters.

Non-Waiver

If one of the parties agrees to waive its right to enforce any term of this Contract, that party does not waive its right to enforce such term at any other time or to enforce any or all other terms of this Contract.

Indemnification

The Contractor shall defend, indemnify and hold harmless MHTC, including its members and department employees, from any claim or liability whether based on a claim for damages to real or personal property or to a person for any matter relating to or arising out of the Contractor's performance of its obligations under the contract awarded pursuant to this solicitation.



LIQUID CALCIUM CHLORIDE MGS-92-07G

1.0 DESCRIPTION. This specification covers Liquid Calcium Chloride for use as a de-icer for maintenance purposes.

2.0 MATERIALS.

2.1 Liquid Calcium Chloride. The percent liquid calcium chloride (CaCl_2) shall be 32 ± 1 percent when tested in accordance with MoDOT Test Method T48 included in Annex A of this specification.

3.0 PACKAGING.

3.1 The supplier shall furnish the truck driver a copy of the bill of lading, manifest, or truck ticket to be delivered to MoDOT personnel prior to unloading, showing the following information regarding the shipment:

- (a) Type of Material.
- (b) Purchase Order Number.
- (c) Consignee.
- (d) Truck Number.
- (e) Weights of truck before and after loading and net weight.
- (f) Specific Gravity of the product
- (g) Destination.
- (h) Date Loaded.
- (i) Name and location of the source.
- (j) The percent CaCl_2 for Liquid Calcium Chloride, typical of the material delivered.
- (k) A Certification Statement.
- (l) Weight per gallon of product

3.1.1 The certification statement shall be signed by an authorized representative of the Supplier and substantially as follows:

"This certifies that the Liquid Calcium Chloride in this shipment complies with MoDOT specifications and the weights shown hereon were obtained on scales approved by and/or certified by the State of Missouri and are correct within the specified scale requirements."

3.1.2 The requirements for platform scales for weighing liquid calcium chloride are shown in Annex B of this specification.

4.0 ACCEPTANCE.

4.1 Acceptance of the material will be on the basis of the manufacturer's certification and satisfactory compliance with this specification as determined by inspection and samples deemed necessary by the engineer at the point of manufacture, intermediate storage, from the truck at delivery, or from the MoDOT receiving tank if it was empty before delivery.



4.2 If a sample fails to comply with the material requirements herein specified, all deliveries shall cease until such time as the engineer determines that adequate quality control has been re-established.

4.3 If tests performed by the engineer show the material is not in compliance with the proper chemical composition, the engineer may opt to accept the material based on the agreed price being adjusted as follows:

$$\text{Adjusted Unit Price} = \frac{\text{AP} \times \text{UP}}{\text{SP}}$$

Where:

AP = Actual percent Calcium Chloride as determined by Engineer's Test Results (%)

UP = Unit Price

SP = Specified minimum percent Calcium Chloride as shown herein.



ANNEX A**Test Method
MoDOT T48****DETERMINATION OF THE PURITY OF CALCIUM CHLORIDE****1.0 SCOPE.**

1.1 This method describes a procedure for determining the purity of Calcium Chloride intended for use in snow and ice removal.

2.0 REAGENTS AND APPARATUS.

2.1 Reagents and Apparatus as described in MoDOT Test Method T26.

3.0 PROCEDURE.

3.1 Weigh, to the nearest 0.1 mg, a sample of the material sufficient to contain 1.45 to 1.55 grams of anhydrous CaCl_2 . Transfer to a 1000 ml volumetric flask and add 200 ml H_2O . Add a few drops of HCl, Specific Gravity 1.19, to clear the solution. Add by pipette, 25 ml of the MgCl_2 solution. Make just alkaline to Methyl Red with NH_4OH , and dilute to volume. Determine the calcium by titrating a 20 ml aliquot, using the method described in MoDOT Test Method T26.

4.0 CALCULATIONS.

4.1 Calculate the percent Calcium Chloride as follows:

$$\% \text{CaCl}_2 = \frac{\text{ml of titration} \times F_{\text{Ca}} \times 50 \times 0.0495}{\text{Wt. of Sample}}$$

Report as:

% Calcium Chloride (CaCl_2) to the nearest 0.1 percent

ANNEX A (continued)

**Test Method
MoDOT T26
DETERMINATION OF CALCIUM CARBONATE
AND MAGNESIUM CARBONATE
IN LIME AND PIGMENT MATERIALS**

1.0 SCOPE.

1.1 This method describes a procedure for determining the percent Calcium Carbonate and percent Magnesium Carbonate in Agricultural Lime and Calcium Carbonate paint pigments.

2.0 REAGENTS AND APPARATUS.

- 2.1 (a) Sargent - Malmstadt Automatic Spectro-Electro titrator, Model S-29700
- (b) Hexaver Solution
Dissolve 65 gm Hexaver (Disodium Dihydrogen 1,2 Cyclohexanediaminetetracetate) in 2.0 liters of H₂O
- (c) Magnesium Chloride Solution
Dissolve 8.00 gm MgCl₂.6H₂O (Reagent Grade) in H₂O and dilute to 1 liter
- (d) Calcon Indicator
Dissolve 0.30 gm Calcon in 50 ml of Methanol
- (e) EBT Indicator
Dissolve 0.30 gm of Erichrome Black T in 50 ml of Methanol
- (f) Potassium Hydroxide Solution
Dissolve 100 gm KOH (Reagent Grade) in 200 ml H₂O

3.0 STANDARDIZATION OF HEXAVER SOLUTION.

- 3.1 (a) Weigh 0.5801 gm Calcium Carbonate (Primary Standard Grade) and transfer to a 500 ml volumetric flask. Slowly add 15 ml HCL (Sp.Gr. 1.19), and boil for a few minutes to expel CO₂. Add 2 gm NH₄CL (Reagent Grade) and 200 ml H₂O. Add with a pipette 10.00 ml of the MgCl₂ solution, and make alkaline to methyl red with NH₄OH (Sp.Gr. 0.90). Cool to room temperature and dilute to volume.
- (b) Turn on the power switch of the automatic titrator and allow to warm up for about 15 minutes. Set the controls as follows:

Function Switch - Spectro
Polarity Switch - No. 2
Wavelength Selector - 650
The Hupp Cadmium Sulfide photocell should be used.

Pipette 25.00 ml aliquots into two 100 ml tall form beakers. To one beaker add 3 ml KOH Solution, 10 ml H₂O, and 10 drops of Calcon indicator. Place the beaker on the titration platform and start the titrator. The burette should be adjusted so that the rate of delivery is about 45 seconds between the 35 ml mark and the 45



ml mark. When the titrator shuts off, record the burette reading as T_{ca} . To the second beaker, add 10 ml NH_4OH and 8 drops of EBT Indicator. Titrate as described above, and record the burette reading as T_{mg} .

Calculate the Calcium and Magnesium equivalents of the Hexaver as follows:

$$\text{CaO Equiv. (F}_{ca}) = \frac{65}{T_{ca}}$$

$$\text{MgO Equiv. (F}_{mg}) = \frac{E_{ca}}{1.391}$$

$$K = T_{mg} - T_{ca}$$

4.0 PROCEDURE.

4.1 Weigh 0.5000 gm sample of the material and transfer to a 250 ml beaker. Moisten with H_2O and add 10 ml HCL. Remove the insoluble matter, SiO_2 , and R_2O_3 by the methods set forth in ASTM C25. Collect all the filtrates and washings from the R_2O_3 filtration in a 500 ml volumetric flask. Pipette 10 ml $MgCl_2$ solution into the flask, cool and dilute to volume.

Titrate 25 ml aliquots for calcium and magnesium as described above in Section 3. Record the burette readings as T_{ca} and T_{mg}

5.0 CALCULATIONS.

5.1 Calculate the percent Calcium Carbonate and percent Magnesium Carbonate as follows:

$$\% \text{CaCO}_3 = F_{ca} \times T_{ca} \times 1.7848$$

$$\% \text{MgCO}_3 = F_{mg} \times (T_{mg} - T_{ca} - K) \times 2.0915$$

Report the results, to the nearest 0.1 percent, as follows:

% Calcium Carbonate ($CaCO_3$)

% Magnesium Carbonate ($MgCO_3$)

ANNEX B

SPECIFICATIONS FOR PLATFORM SCALES

1.0 Equipment for weighing material shall consist of accurate and reliable platform scales approved by MoDOT.

2.0 Calibration shall be to within an accuracy of 0.4 percent of the load applied, regardless of the location of the load on the platform. The value of the smallest unit of graduation on a scale shall be not greater than 20 pounds [10 kg]. Sensitivity requirements of scales not equipped with balance indicators shall be twice the value of the minimum graduated interval on the weigh beam, or 0.2 percent of the nominal capacity of the scale, whichever is less. For scales equipped with balance indicators, the sensitivity requirement shall be the value of the minimum graduated interval on the weigh beam.

3.0 When equipment to be weighed is of such length that all axles cannot be weighed simultaneously, a level area of portland cement concrete or asphaltic concrete pavement shall be provided permitting those axles not on the scale platform to be on the pavement during the weighing operation. The approach shall be the same width as the platform and of sufficient length to insure the level positioning of vehicles during weight determinations. The weighing shall be performed with all brakes released. When equipment to be weighed is equipped with an air bag suspension unit on any axle, the equipment including semi-trailers or pup trailers shall be weighed on platform scales of sufficient size to weigh all axles of the combination simultaneously.

4.0 Scales shall have been calibrated within the six month period immediately prior to any material being delivered or any time the MoDOT representative has cause to question the accuracy of the scale. A scale acceptance shall be based on one of the following:

- (a) A valid certification or seal of approval by the Division of Weights and Measures of the Missouri Department of Agricultural will be acceptable.
- (b) A valid certification or seal of approval by a State of Missouri duly appointed "sealer of weights and measures" in cities or counties of seventy-five thousand population or more will be acceptable.
- (c) Certification of calibration from a commercial scale service company showing that the scale meets the requirements of these specifications. The Supplier shall furnish the certification of calibration to the MoDOT representative.

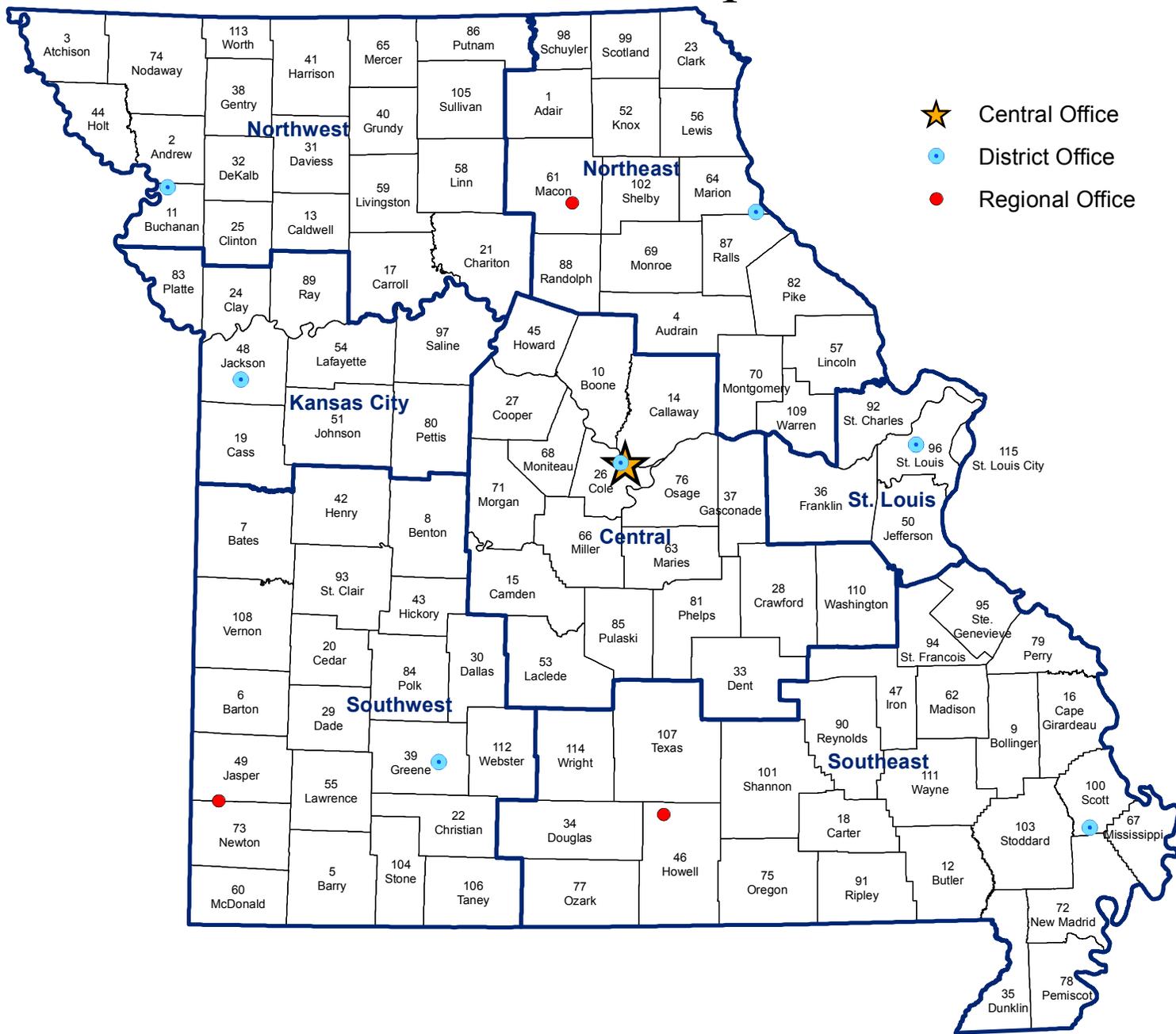
4.1 Regardless of the form of acceptance, the calibration shall be within the accuracy requirements specified herein and the scales shall meet all requirements of these specifications.

4.2 Verification of a platform scale may be required of a hauling unit on another recently calibrated and certified scale.

4.3 All Cost incurred in obtaining a certification of calibration or verification shall be borne by the Supplier.



Missouri Department of Transportation District Map



County	No. Dist.	County	No. Dist.	County	No. Dist.	County	No. Dist.	County	No. Dist.	County	No. Dist.
Adair	1 .. NE	Chariton	21 .. NW	Harrison	41 .. NW	Macon	61 .. NE	Phelps	81 .. C	Shannon	101 .. SE
Andrew	2 .. NW	Christian	22 .. SW	Henry	42 .. SW	Madison	62 .. SE	Pike	82 .. NE	Shelby	102 .. NE
Atchison	3 .. NW	Clark	23 .. NE	Hickory	43 .. SW	Maries	63 .. C	Platte	83 .. KC	Stoddard	103 .. SE
Audrian	4 .. NE	Clay	24 .. KC	Holt	44 .. NW	Marion	64 .. NE	Polk	84 .. SW	Stone	104 .. SW
Barry	5 .. SW	Clinton	25 .. NW	Howard	45 .. C	Mercer	65 .. NW	Pulaski	85 .. C	Sullivan	105 .. NW
Barton	6 .. SW	Cole	26 .. C	Howell	46 .. SE	Miller	66 .. C	Putnam	86 .. NW	Taney	106 .. SW
Bates	7 .. SW	Cooper	27 .. C	Iron	47 .. SE	Mississippi	67 .. SE	Ralls	87 .. NE	Texas	107 .. SE
Benton	8 .. SW	Crawford	28 .. C	Jackson	48 .. KC	Moniteau	68 .. C	Randolph	88 .. NE	Vernon	108 .. SW
Bollinger	9 .. SE	Dade	29 .. SW	Jasper	49 .. SW	Monroe	69 .. NE	Ray	89 .. KC	Warren	109 .. NE
Boone	10 .. C	Dallas	30 .. SW	Jefferson	50 .. SL	Montgomery	70 .. NE	Reynolds	90 .. SE	Washington	110 .. C
Buchanan	11 .. NW	Davies	31 .. NW	Johnson	51 .. KC	Morgan	71 .. C	Ripley	91 .. SE	Wayne	111 .. SE
Butler	12 .. SE	Dekalb	32 .. NW	Knox	52 .. NE	New Madrid	72 .. SE	St. Charles	92 .. SL	Webster	112 .. SW
Caldwell	13 .. NW	Dent	33 .. C	Laclede	53 .. C	Newton	73 .. SW	St. Clair	93 .. SW	Worth	113 .. NW
Callaway	14 .. C	Douglas	34 .. SE	Lafayette	54 .. KC	Nodaway	74 .. NW	St. Francois	94 .. SE	Wright	114 .. SE
Camden	15 .. C	Dunklin	35 .. SE	Lawrence	55 .. SW	Oregon	75 .. SE	Ste. Genevieve	95 .. SE	St. Louis City	115 .. SL
Cape Girardeau	16 .. SE	Dunklin	35 .. SE	Lewis	56 .. NE	Ozark	77 .. SE	St. Louis	96 .. SL		
Carroll	17 .. NW	Gasconade	37 .. C	Lincoln	57 .. NE	Pemiscot	78 .. SE	Saline	97 .. KC		
Carter	18 .. SE	Gentry	38 .. NW	Linn	58 .. NW	Perry	79 .. SE	Schuyler	98 .. NE		
Cass	19 .. KC	Greene	39 .. SW	Livingston	59 .. NW	Pettis	80 .. KC	Scotland	99 .. NE		
Cedar	20 .. SW	Grundy	40 .. NW	McDonald	60 .. SW			Scott	100 .. SE		

